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RELIGION IN A SCIENTIFIC ERA

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I WRITE on the subject of this article in a very humble frame of mind. I am not a professional student of religion nor in any sense am I qualified to discuss either its technical or its deeper philosophical aspects. Perhaps some of the things which I shall say will not be generally approved. But I am venturing to write on this subject because I believe that there are some basic aspects of the much-discussed relationship between science and religion to which the thoughts of both scientists and others can profitably be directed.

For one thing, it is interesting to note the widely contrasting views of able thinkers on this subject. At one extreme is the scientifically minded British philosopher, Bertrand Russell, who said, "My own view on religion is that of Lucretius. I regard it as a disease born of fear and as a source of untold misery to the human race." We must admit some basis for this statement: much of the development of religious doctrines has centered around a desire to escape fears and ills and to gain some advantage. (Parenthetically I should say that these are not unworthy aims, though not on as high a plane as some of the more unselfish aspirations that have motivated religion.) Also we must admit that centuries of warfare, persecution and exploitation in the name of religion have brought "untold misery to the human race."

Quite a different note is struck by another great contemporary thinker, the scientist Robert A. Millikan. He says, "There is no incompatibility between science and the essential purpose of religion, which is to develop the consciences, the ideals and the aspirations

of mankind; but individual religions, or branches of religion, often contain more than this essential, and much that is objectionable. Personally I believe that essential and not dogmatic religion is one of the world's supremest needs."

A basic difference in attitude toward religious matters was illustrated by a conversation I had about fifteen years ago with a fundamentalist professor of one of the Christian theological schools. Realizing that we were far apart in our thinking, I tried to see if there was anything on which we could agree; so I asked him two questions which I thought would give us a common starting point. But when he replied I was startled to realize the width of the gulf between this religious leader and practically the entire group of my own acquaintances.

My first question was this: how old is the earth? Attempts have been made, by those who interpret the Old Testament as an infallible historical record of events, to date the origin of the earth on the basis of the seven days of creation plus the genealogical record from Adam and Eve through to the times of ordinary historic record. These estimates come out to be less than 10,000 years.

On the other hand, scientists have numerous methods of estimating geological age. For example, measurements of the rate of erosion of rocks by flowing water indicate that at least hundreds of thousands of years must have been required for the Colorado River to carve out the Grand Canyon. Measurement of the rate of depositing sediment at the mouth of the Nile or the Mississippi similarly points to hundreds of thousands of years as required to produce their great deltas. The same answer

comes from estimates of the time required for the rivers, carrying the salts that are continually dissolved from the ground by fallen rain, to have carried into the oceans the amount of salt that is in them to-day. But most accurate of all is the measurement of the age of rocks by their content of radioactive materials and products. These materials are like tiny clocks, embedded in the rocks and ticking away the centuries entirely unaffected by heat, cold, pressure or chemical combination. Here scientists believe they have an accurate measure of geologic age, and can date rocks in terms of hundreds of millions of years.

In view of this evidence, I said to my theological acquaintance, How can you hold to the literal historical interpretation of the Scriptures as giving a geological age less than 10,000 years? He replied, "You scientists make the assumption, which you can not prove, that the scientific laws which you find true to-day were also true a thousand or more years ago. I prefer to make the assumption that the Holy Scriptures are absolutely accurate." Seeing that I could not reach common ground here, I tried the second question: "Which is more important, the virgin birth of Jesus Christ or his teachings, by word and by example, regarding the attitude that men should take toward their fellow men and toward God?" He replied, "The virgin birth is by far the more important because, if this be not accepted, we have no basis of authority on which to accept his teachings." I tried to argue that the teachings stood on the authority of their own merit, as proven by experience; and that it would seem strange to me to place the ideals which Christ exemplified and to which he devoted his life in a position subordinate to the manner of his birth. But again we could reach no common ground.

In describing this incident I know that I have taken an extreme case. But this

present-day illustration is typical of a long evolution in religious thinking. A few thousand years ago nearly every phenomenon of nature was attributed to the act or command of some god or goddess. To-day, instead of praying to gods of wind, rain and sun, we study the reports of the weather bureau, and our meteorologists know the causes and basic laws of the motions of air masses and the formation of clouds and rain. Formerly crops were thought to depend on the degree of benevolence of the goddess of the harvest; to-day we know definitely their dependence on the quality of seed, nature of soil, distribution of sunshine and rain and control of insect pests.

A few centuries ago the idea that the earth is not the center of the universe was held to be a death-blow at the Scriptures, for was it not declared that the sun riseth in the east and setteth in the west, and that the stars run through their orbits? The acceptance of our present astronomical concepts was one of the greatest wrenches in the early Christian Church, for it was the first of a long series of defeats of the then existent ideas of "infallibility and limitless authority" in which the organized church had clothed herself.

A second wrench came with the acceptance of the idea that the earth is spherical. Navigators even before the time of Columbus knew this fact well, though their ideas about the size of the earth were inaccurate. But the church fought this idea, pinning its faith in the biblical phrase, "the four corners of the earth." At one stage in the controversy a queer compromise appeared; maps of the known world were given a shape like a bulging square, or a circle distorted with four cusps, in order to keep the notion of four corners and yet give grudging recognition to the knowledge of navigators and astronomers.

In our own day many of the churches have been fighting a similarly losing

battle against the theory of evolution. Some twenty-five years ago, when my wife was in Y.W.C.A. work, she visited many colleges where the teaching of evolution was forbidden and the name even was mentioned only in whispers. Groups of girls used to request her to meet them off campus and enlighten them as to the meaning of this forbidden subject. And yet for several generations scientists have seen an increasingly clear record of evolution in the age-long development of plants, animals and to some extent of man, as disclosed in the study of skeletons and fossils. But what is more, we are now producing new species of plants and animals in our laboratories, using x-rays or radium or certain chemicals to accelerate processes which have certainly been going on naturally ever since life has existed on this planet. It is even reasonable to expect that this controlled process of evolution may soon be in commercial operation. A number of industrial and agricultural laboratories have been experimenting with it.

All the preceding remarks bear on the much-discussed question: "Is there a conflict between science and religion?" I believe it may be helpful to point out that the answer to this question depends upon the claims of the religion. If a religion essays to make pronouncements regarding the materials, laws and forces of nature, whether laws of physics or astronomy in the inanimate world or laws of biology or heredity in the animate world, then the religion will certainly come sooner or later into conflict with advancing knowledge of science, and will certainly be the loser in the conflict. Those religious persons of fundamentalist leanings may resent this situation, and lay the blame on the upstart scientists of the last hundred years who have rushed in where angels feared to tread. If any feel thus, I would refer them to a *real* fundamentalist of fifteen centuries ago, St. Augustine, who wrote:

There is some question as to the earth or the sky, or the other elements of this world—respecting which one who is not a Christian has knowledge derived from most certain knowledge or observation: and it is very disgraceful and mischievous, and of all things to be carefully avoided, that a Christian speaking of such matters as being according to the Christian scriptures should be heard by an unbeliever talking such nonsense that the unbeliever, perceiving him to be as wide from the mark as east and west, can hardly restrain himself from laughing.

Permit just one more illustration which aptly bears on St. Augustine's theme. While Benjamin Franklin was making his experiments on the nature of lightning, and his invention of the lightning rod was finding wide and successful use in New England, some of the great clergymen of Boston became greatly exercised over this sinful interference with God's power to strike his wayward children with fear and punishment through thunder and lightning. And when an earthquake shook this region, it was proclaimed from the pulpits as God's warning against such interference with his powers. This attitude by the clergy certainly reduced the respect held both for them and their religion.

On the other hand, science has not encroached upon the basic functions of religion, which have to do with man's aspirations, ideals and motives which guide his emotional adjustment to the world and to his fellow man. Even here science may also play a rôle, through correction of glandular disorders or psychological maladjustments which so often warp man's outlook on life and lead to antisocial or irrational behavior. But, granting all this, I believe that there is a fundamental religious instinct in man that craves expression, and that there is a great realm of spiritual values and satisfactions in which religion and not science has its rôle.

With these observations as a background, let me proceed to a few more positive considerations.

(1) The sources of such conflicts as

have occurred between religion and science are to be found in matters which are really no part of religion. They are either the remnants of old superstitions or are accretions which have become attached to religion like barnacles to a ship. Many of these accretions have come through the efforts of religious men to work out a philosophy of life in all its aspects, and have become ingrained in church doctrines. But, like barnacles, they have impeded rather than aided religious progress. I believe that science has rendered a great service to essential religion in unshackling it from these incumbrances and thus assisting it in developing more clearly its fundamental objectives.

(2) The impact of science on religion has emphasized its dynamic, as opposed to static, character. An extreme example of static attitude is implicit belief in the literal accuracy and permanent perfection of the scriptures of the Jews or the Bible of the Christians. The dynamic attitude is to view those documents as the story of man's continual progress in evolving a religious attitude toward his environment and all that this environment implies. With this viewpoint, grotesque contradictions disappear. We see the evolution of his concept of God from an anthropomorphic conception of numerous deities of capricious behavior and often conflicting purposes, through the notion of a single God who walked and bargained with men, who chastised them and repented, to the conception of a great spiritual force operating through natural laws which are understandable and dependable and at least partly discoverable through science. We see the picture of a continual development in ideas of right and wrong from the early notions of obedience to sets of rules to concepts of social justice and human welfare. We see notions of salvation and eternal life becoming less concentrated on selfish considerations

and more concerned with service to others and the permanent contribution of our individual lives to the future welfare of mankind. This dynamic concept of religion as a continually evolving and developing spiritual force is inspiring and acceptable in a scientific world. In my judgment the static concept of religion is sterile, discouraging and unacceptable.

(3) I believe there is justification, and even need, for a variety of religious denominations, which emphasize different aspects of that complex thing that we call the spiritual life. There are two reasons for this belief. The first is that there are many different types of persons: some are emotional, others are severely analytical; some are philosophical, others are active; some like to take initiative and responsibility, others like to be led and directed. So it is natural that there should be churches or other religious organizations where each person can find the type of fellowship and opportunity for expression and activity which will give him the best spiritual satisfaction and development.

A second advantage in having some diversity in religious organizations is that a certain amount of diversity makes for virility and progress. This appears to be true in all aspects of life. It is the diversity of plant life that maintains such life despite diseases and pests which attack and perhaps destroy one or another type. Existence of different types of social organization gives the experience on which sound improvements can be made. In general the tendency for all to herd together makes for safety, conservatism and stagnation, whereas the tendency for expression of individuality leads to risk and progress, though at the expense of some confusion. I suspect that this holds true in religion as in other aspects of life. So, on both counts, I do not agree with some who wish that all religions and churches

might combine under one common faith and doctrine.

(4) A corollary to this last point of view is the need for tolerance and mutual respect between different religious groups. The basis for such tolerance is found in the essential similarity of what I would call the basic objectives and attitudes of all religions. They may differ in emphasis on various points, they may even hold contradictory views on some matters, but all religions worthy of the name possess common ideals of goodness, of unselfishness and service, of reverence for a power which transcends our human strength and understanding. The work of the National Conference of Catholics, Protestants and Jews is a fine example of enlightened effort to stand together for such essentials and to be tolerant and respectful of each other's differences.

(5) In recognizing that religion deals with spiritual interests and values, while science is supreme in the field of observable facts and logical relationships, it is proper to remember that, even in the realm of nature, science has its limitations which are not always appreciated. Science never discovered the ultimate origin or purpose of anything. It can find out *how* the universe works, not what *caused* it or what *determined* the way it works, or its *purpose* or its ultimate *destiny*. If any religion wishes to include a speculation regarding these matters, science can not gainsay her, for these are outside the realm of science. But, in my judgment, they are also outside the proper realm of religion and, being probably incapable of any proof by observation or deduction, are left only to imaginative speculation.

In conclusion, if I were to try to

describe the position of religion in a scientific world, I should summarize the situation about as follows:

The entire history of the contact of religion and science shows that the facts of the world and of life which are capable of observation and test constitute a realm in which science is supreme. Science has not supplanted and can not supplant or destroy religion in its proper sense. It can, however, give a setting to which our thoughts on religious matters must conform. Science has continually forced men to take an ever-wider and grander concept of religion by breaking down artificial barriers of ignorance and superstition. Its whole tendency has been to emphasize the fundamentally spiritual character of religion as representing the highest ideals and aspirations of mankind as opposed to theological rules, doctrines, theories, etc. Science has therefore had tremendous influence in shifting the emphasis of religion from the physical to the spiritual world and we must not shut our eyes to the possibility of still further powerful influence of this sort.

Science has thus contributed to the making of religion into a developing, dynamic spiritual force. I believe that the principal influence of science upon religion has been along the following lines. First, to break down "authority" and substitute reason based upon facts of observation. Second, to eliminate superstition and chicanery from religion. Third, to doom any religion of the static type and emphasize the necessity of a continual development of religious thought to keep pace with and interpret the increasing knowledge regarding all matters which pertain to man's activities and environment.